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DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
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CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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25 October 2001

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: COMBINATION OF A STATIN AND EX-VIVO TREATED BLOOD FOR TREATING ARTEROCLEROSIS

(57) Abstract: There is provided a combination treatment for slowing or arresting the progression and/or effecting the regression of atherosclerotic plaque deposits in a mammalian patient, said combination treatment including the administration to the patient of a cholesterol lowering drug such as a statin, and the administration to the patient of an aliquot of a patient's own blood which has been treated ex vivo with one or more stressors selected from an oxidative environment, thermal stress and UV light.

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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, BIOSIS, CANCERLIT, MEDLINE, EMBASE, PAJ, WPI Data

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 98 07436 A (VASOGEN INC) 26 February 1998 (1998-02-26) claims & US 5 980 954 A 9 November 1999 (1999-11-09) cited in the application ---	1-20
Y	WO 99 13890 A (RECH DU CENTRE HOSPITALIER DE ;VASOGEN IRELAND LIMITED (IE)) 25 March 1999 (1999-03-25) claims ---	1-20
P, Y	WO 00 29003 A (STEWART DUNCAN J ;VASOGEN IRELAND LIMITED (IE)) 25 May 2000 (2000-05-25) claims ---	1-20
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
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- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date of priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

26 March 2001

Date of mailing of the international search report

11/04/2001

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Leherte, C

# INTERNATIONAL SEARCH REPORT

Internat. Application No

PCT/CA 00/01112

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 96 34613 A (VASOGEN INC ; BOLTON ANTHONY ERNEST (GB); COOKE ERNEST DAVIDSON (GB) 7 November 1996 (1996-11-07) claims ---	1-20
Y	J E F REYNOLDS: "Martindale, The Extra Pharmacopoeia, Thirty-second Edition", LONDON, ROYAL PHARMACEUTICAL SOCIETY, GB, VOL. ED. 32, PAGE(S) 1268, 1269, 1273, 1275, 1277-1279 XP002163086 ISBN: 0-85369-342-0 Atorvastatin, cerivastatin, lovastatin, fluvastatin, pravastatin, simvastatin -----	1-20

## FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

Continuation of Box I.2

Claims Nos.: 1, 2, 4-10, 17-20

Present claims 1, 2, 4-10 and 17-20 relate to a compound defined by reference to a desirable characteristic or property, namely "cholesterol lowering drug".

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such products/compounds/methods/apparatus. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product/compound/method/apparatus by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the compounds individually structurally identified by name in the claims, with due regard to the therapeutic application mentioned in the claims.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 00/01112

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9807436 A	26-02-1998	US 5980954 A	09-11-1999
		AU 724265 B	14-09-2000
		AU 3844297 A	06-03-1998
		EP 0920322 A	09-06-1999
		JP 2000517302 T	26-12-2000
WO 9913890 A	25-03-1999	CA 2218625 A	12-03-1999
		AU 9148098 A	05-04-1999
		EP 1011696 A	28-06-2000
		US 6136308 A	24-10-2000
WO 0029003 A	25-05-2000	AU 1145000 A	05-06-2000
WO 9634613 A	07-11-1996	AU 721530 B	06-07-2000
		AU 5494496 A	21-11-1996
		EP 0768886 A	23-04-1997
		JP 10506636 T	30-06-1998